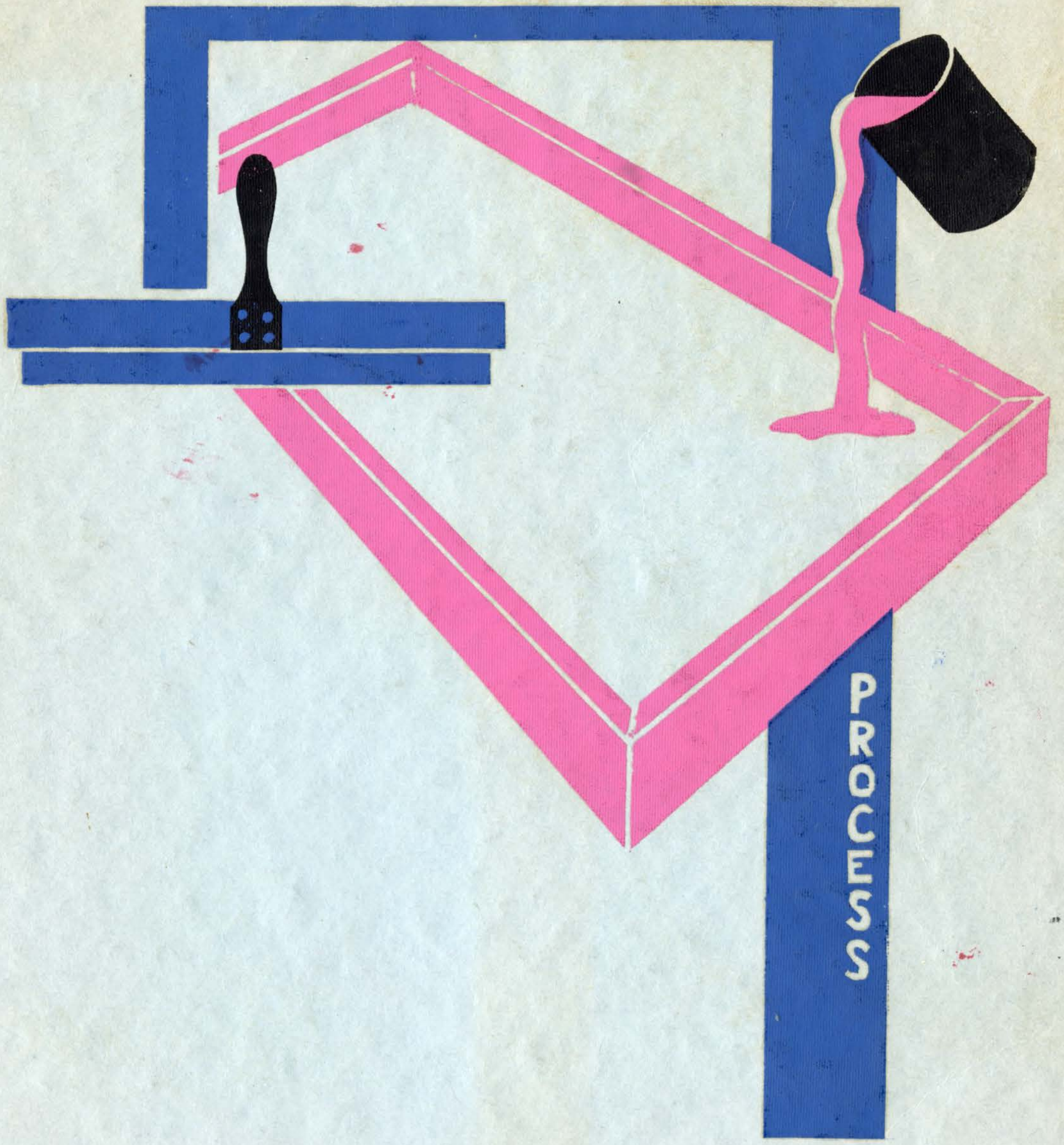
THE SILK-SCREEN PROCESS



BY W. ROBERT KLINE

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THE SILK-SCREEN PROCESS
AND FLOCKING

Made simple for high school and college use.

By

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M.A.

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INTRODUCTION

Having had many years of experience with the silk-screen process, and knowing that one of the big problems of the art teacher is the production of posters, signs, etc., I have come to the conclusion that the silk-screen process is an invaluable aid to any progressive high school or college art department. There are too many art teachers today who are still confronting the same problems and using the same techniques and processes that they used ten and even twenty years ago. Even though silk-screen is relatively new to many art departments, the mere fact that two or three hundred posters may easily be done in half a day is a decided advantage to many teachers.

The rapid production of posters should not give the art teacher the impression that the silk-screen is only a commercial method of reproducing layouts without any art value connected with it. Contrary to this belief, the process has great art possibilities and affords wonderful opportunities for experimentation. Few teachers realize the range of possibilities of this process.

The silk-screen is being used to reproduce certain pieces of art such as watercolors, crayon drawings, etc. The high quality of reproduction obtained and the excellent design quality possible have helped bridge the gap between the "fine" artist and the "commercial" artist, and the value to the community has been very pleasing

The art teacher must be ever alert for ways and means of selling art to the school and community, and I believe, in this respect, that the silk-screen is exceedingly valuable. An attempt is made in the following pages to acquaint the beginner with the process, its possibilities and various uses, and to give him a nominal outlay of equipment to begin silk-screen work.

No attempt is made here to include all the various techniques and commercial methods possible. A basic understanding and working knowledge of the silk-screen process for the average high school or college art department is my aim. It is my sincere wish that through this work more teachers and art departments may bring to the minds of their administrators the necessity and importance of art in the modern curriculum. The art teacher must, theoretically, sell the need for art to the school and to the community.

W. Robert Kline B.S., M.A.

CHAPTER I

BRIEF HISTORY AND EXPLANATION
OF
THE SILK-SCREEN

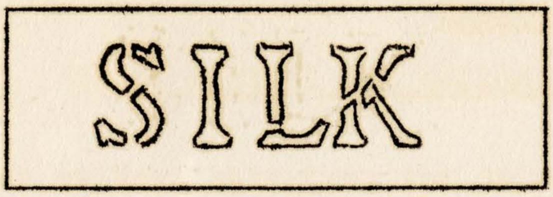
Chapter I

BRIEF HISTORY AND EXPLANATION OF THE SILK-SCREEN

Some writers attribute the origin of the silk-screen process to the Chinese and Japanese. It is dangerous to say just who did invent the process. We do know, however, that the Japanese cut out duplicate stencils from thin paper and fastened thin hairs, in a criss-cross manner, to the stencil for the purpose of holding the centers of such letter, as P, R, A, etc., in place; they then lacquered the duplicate sheet of cut out paper to this, thus forming a stencil. This acted about the same as the mesh of the silk or organdy as used in the silk-screen of today.

The process is relatively new in this country since it has only been used here for about fifty years. Only very recently has the process been used extensively; today many large silk-screen plants are established where experienced silk-screen craftsmen are employed.

The old method of stenciling, which is still used to some extent today, is nothing but tracing on a piece of tough oiled paper or metal the desired letters which are to be cut out leaving little tabs to hold the parts together, and then dabbing paint through the openings in the stencil with a stiff stencil brush. See illustration on page 4. This type of stencil has often been used for applying names and addresses on shipping boxes and cartons.



STENCIL

STENCIL BRUSH

The silk-screen process of today is the method of attaching the design to be reproduced to a piece of silk or organdy, which has been stretched tightly on a wooden frame, and forcing a colored medium through the open mesh of the silk, which has not been blocked out by one of the various methods described later, and thus obtaining an impression of the original design.

An efficient silk-screen set-up may be very simple and economical, consisting mainly of the following parts:

1. Printing frame and base.
2. Stencil.
3. Squeegee.
4. Paint.

There are a few other materials needed depending upon the type of film or masking method used, and these will be described later.

CHAPTER II

A SIMPLE SILK-SCREEN OUTFIT

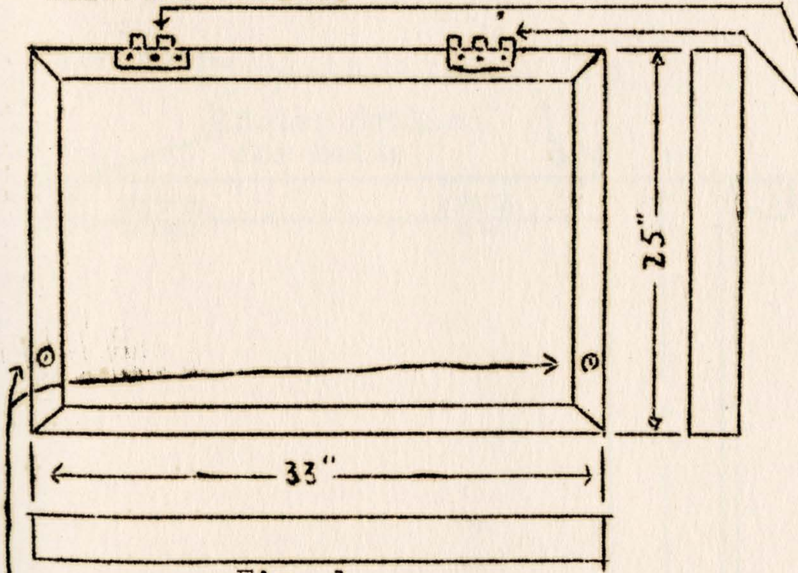
Chapter II

A SIMPLE SILK-SCREEN OUTFIT

There are numerous types of silk-screen printing frames and accessories on the market today, but the following pages will explain and describe a very simple, efficient, and economical outfit which has been used by the author in some very satisfactory work.

1. Printing Frame and Base.

The printing frame consists of a wooden frame fastened with hinges to a five ply veneer base. The frame may vary in size according to the job desired and may all be used with the same base providing male and female sections of the hinges are screwed on to the base. A convenient size for the frame and base is illustrated below.



Male section of hinge
Female " " "

Fig. 1

Fig. 1.- PRINTING FRAME

Screw Hooks

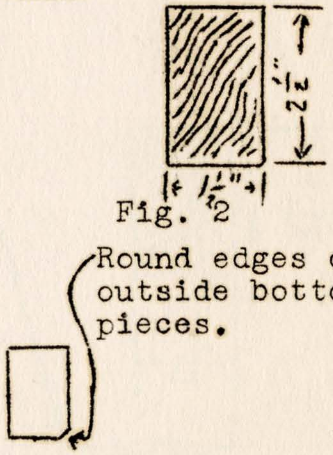


Fig. 2

Round edges on outside bottom pieces.

Fig. 2.- SIZE OF STOCK USED

An auxiliary frame is illustrated below. It may also be used with the same base as long as the hinge sections are spaced the same distance apart on each frame. This frame can be used when smaller jobs are run off.

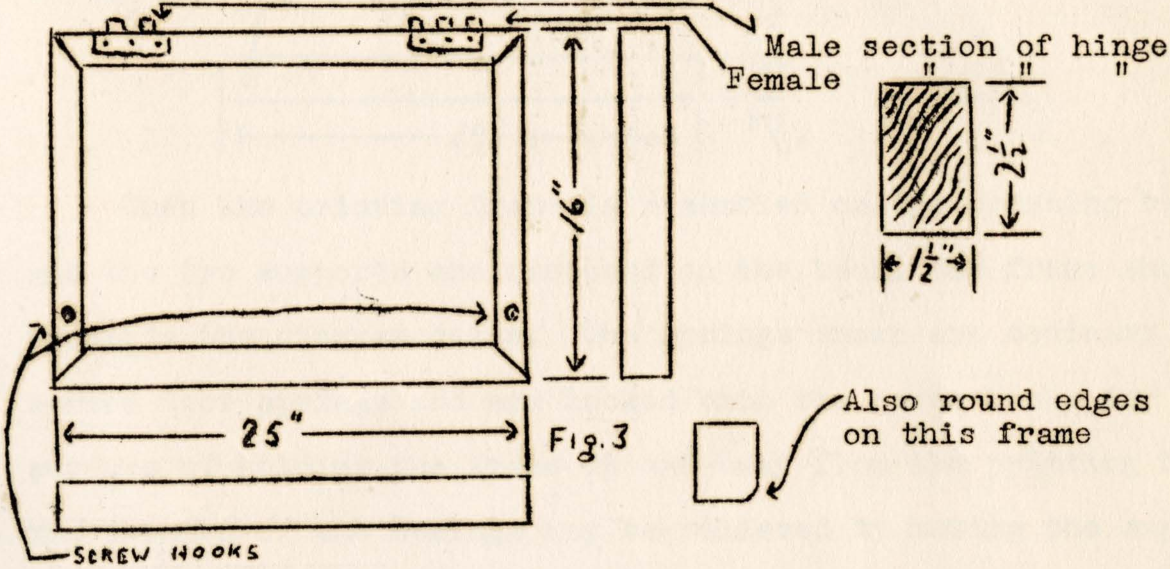


Fig. 3

The printing base is illustrated below; the best material for the base is five ply veneer as it is very strong and will not warp.

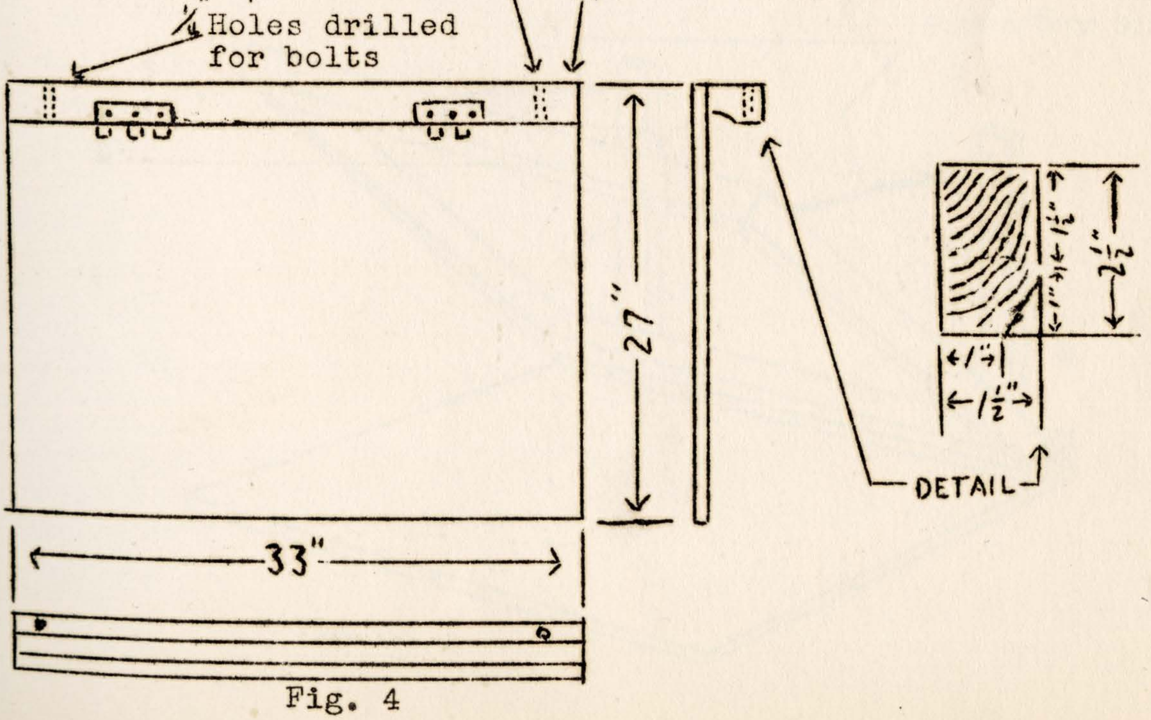


Fig. 4

Two strips, to be fastened on the back of Section A, Fig. 4, with two 3" bolts having wing nuts, as illustrated below, are needed.

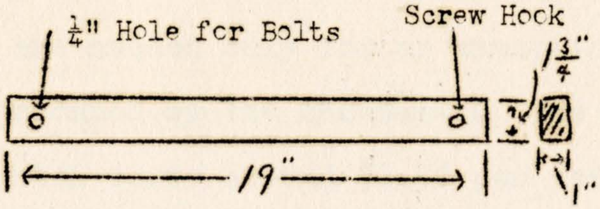


Fig. 5.

When the printing frame is assembled on the printing base and the two supports are fastened on the back, the frame should resemble the diagram below. The springs shown are ordinary screen door springs and are hooked onto the screw hooks for the purpose of holding the frame up and away from the printing base. The tension of the springs may be relieved by moving the supports in the direction of the arrows in the diagram.

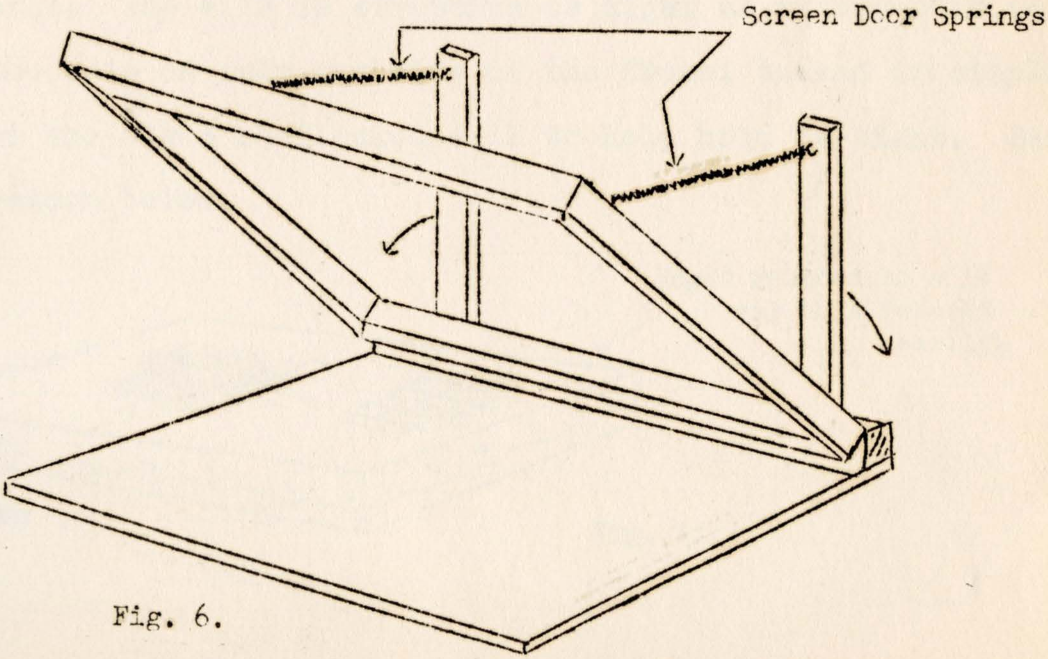


Fig. 6.

2. Covering the Frame with Silk for Printing

After the frame or frames are made, one frame may be covered with silk. There are various grades of silk on the market. These range anywhere from $2.00 to $12.50 per yard, but they are needed only for an exceptionally fine job which is to be reproduced by the thousands. The writer uses a silk substitute which costs around $1.50 per yard. A very economical and satisfactory material, which the author also used for several years, is ordinary white swiss organdy which can be obtained at almost any dry goods store for less than one dollar a yard. A yard will more than cover the frame and will last for a long time. For some commercial permanent screens, a metal cloth is used, but it is very expensive and entirely out of the question here.

The silk can be fastened to the frame with common carpet tacks, thumb tacks, or staples and all the edges shellacked afterwards. The silk is stretched as tight as a drum-head across the face of only one side of the frame, tacked or stapled, and then the edges shellacked well to help hold it tight. See illustration below.

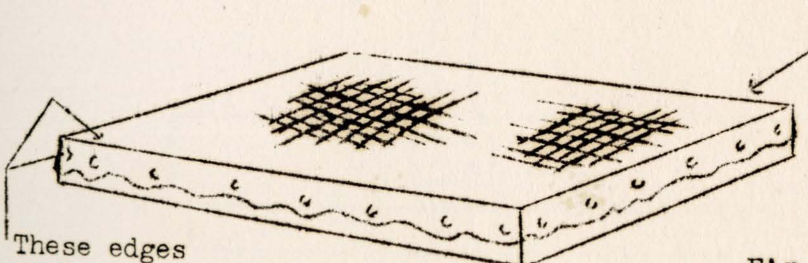


Fig. 7.

3. The Squeegee.

It is necessary to have a rubber-bladed squeegee, which is used for the purpose of forcing the paint through the open mesh of the screen by pulling it across the silk. This squeegee is similar to the ones used by window cleaners; but, for the silk-screen, a much heavier squeegee is needed. These may be purchased at any store handling silk-screen supplies, for 50 to 75 cents for an 18" size. Other sizes may be used depending on the size of the job to be run off. The squeegee used, however, should be at least wide enough to cover the width of the job to be printed with one stroke across the screen. A typical squeegee for this job is illustrated below.

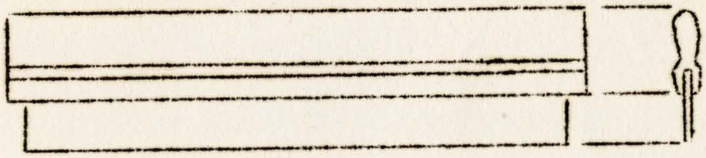


Fig. 8.

If the squeegee shown above is not satisfactory, one with a handle, which facilitates the handling of it, may be used. See illustration below.

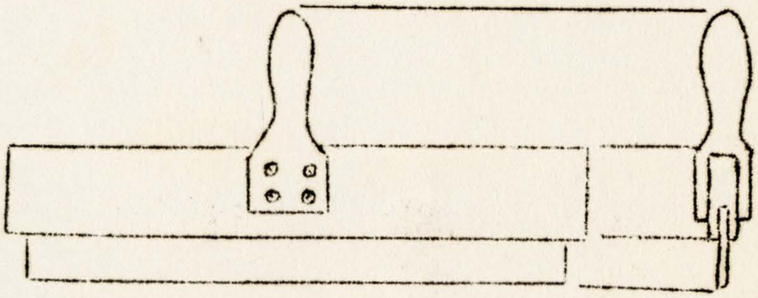


Fig. 9.

CHAPTER III

COMMON PRINTING MEDIUMS

Chapter III

Common Printing Mediums

A. Oil Paint.

The most widely used medium for the silk-screen is a special paint about the consistency of thick cream. Many beginners make the mistake of using the oil paint just as it comes from the can, which, in its original "putty" state, is too thick. It must first be thinned a little with a special thinning medium or varnish, and often even with ordinary linseed oil. A wide range of silk-screen paints are available today, either in a dull, matt finish, or high gloss. There is also a transparent paint on the market that can be used for very effective overlays, such as an overlay of blue on yellow thus producing a section of green where the overlap occurs. The paint is forced through the open mesh of the silk by pulling the squeegee across the silk with the paint in front as illustrated in the diagram below. Silk-screen paint varies in price from $1.00 a quart to $1.75 or more depending on the color and type desired.

A cut-away of the frame shows how the paint is handled by the squeegee.

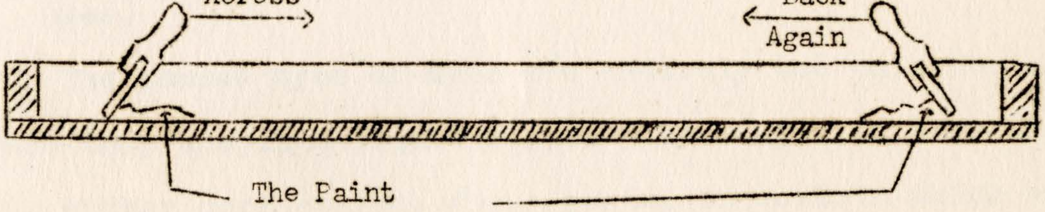


Fig. 10.

B. Water Colors.

The regular "tempera" or "show-card" paint may be used successfully if one follows the simple formula below.

1. Thick, boiled flour and water.
2. Glycerin, honey, or corn syrup.
3. Common tempera paint.

Boil some flour and water until it becomes a thick, creamy paste, stirring so as to keep it smooth. Add enough of tempera to get the desired shade, then add a little glycerine, honey, or corn syrup to help retard the drying and facilitate the easy gliding of the paint across the silk. Experiment in order to find the right proportion of materials. This paint, it must be remembered, is not waterproof and cannot be used for outdoor signs.

C. Metallic Paints.

To obtain a metallic color medium, do not buy the ready mixed paint or the kind that comes in a double can ready for mixing. The best method is to buy the separate loose metallic powder and mix it with a silk-screening varnish. It is only possible with the silk-screen to obtain an opaque metallic color and, hence, cover over another color completely.

D. Dyes.

The common type of dyes are entirely too thin for screening since they are in a liquid state. These dyes must be thickened with either corn starch, flour paste, or dextrin which can be easily obtained.

The American Crayon Company has recently marketed a "Prang Textile Color" which is exceptionally fine for textiles. It is boilproof, sunproof, and does not harden the cloth. The writer recommends it for silk-screening, block-printing or stencilling.

E. Enamels, lacquers, and varnishes.

If these mediums are desired for special jobs, such as glass, metal, felt, etc., they may be obtained from almost any store that handles silk-screen supplies. Special enamels, lacquers, and varnishes are made up for silk-screen printing.

F. Other Mediums.

1. Glue.

Glue may be processed through the silk-screen for adhering flitters, smaltz, crystals, or any other substance. It is also screened for adhering wing backs to posters.

2. Asphaltum.

For any etching process, asphaltum of the right consistency may be silk-screened.

3. Glass etching compounds.

Just recently there has appeared on the market, a special glass etching compound for etching or frosting on glass. This compound does not injure the silk and is easily processed.

CHAPTER IV

SIMPLE STENCIL METHODS

Chapter IV

Simple Stencil Methods

There are various types of stencils that may be used, and a few of these will be described here. The type of stencil to be used depends somewhat on the result desired. Each type will be explained separately with some illustrations. The purpose of any of these stencils is to block out the parts of the silk where the paint is to be retarded.

A. The film method.

The author has used a special film known commercially as "Nu-film" or "Blu-film" and has found it very satisfactory where a solid layer of color is desired. This "Nu-film" is a specially prepared, brownish film, laminated to a wax backing sheet. It permits very delicate and intricate, as well as large, bold designs to be cut. The backing sheet holds the center of letters such as O. P. A. etc., in place, and any intricate spot or line in place, thus eliminating the necessity of little tabs as in the old type of stencil described in Chapter I. The film is somewhat transparent; therefore, after the design is drawn on paper, a piece of the film is fastened over the original on a drawing board with thumb tacks or masking tape, and then the parts that are to be printed are cut away with a stencil knife. The film, after being cut, is placed under the silk side of the frame with newspapers under the film to act as a soft base so that there will be better contact between film and silk. A special adhering liquid is rubbed over a little spot, then dried immediately with a clean cloth, and so on until the entire film has been covered. This liquid adheres the brownish film to the silk. In fact, it becomes an intregal part of the silk itself. After about ten minutes, the wax backing sheet can be carefully peeled off leaving all the sections, where the brownish film had been cut away, open mesh for the paint to pass through. The film and several types of stencil knives are shown below. The film costs about $2.00 for a sheet size 30" x 40". The knives vary in price from 40 cents to $2.00; however, a very good knife can be bought for about 50 cents.

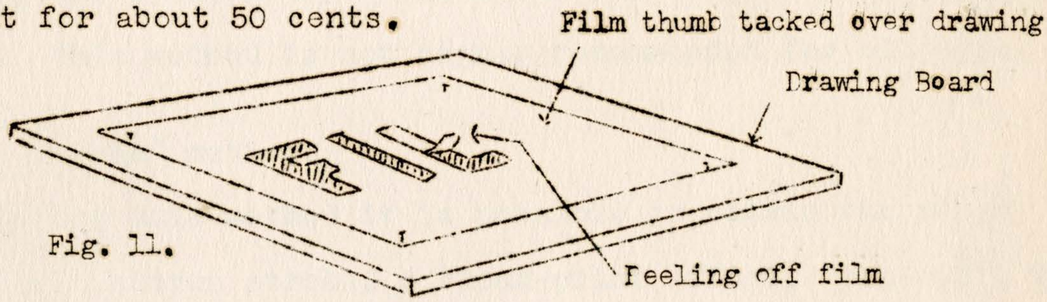


Fig. 11.

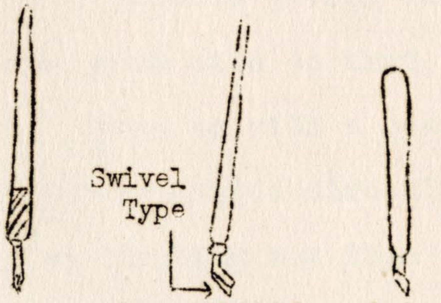


Fig. 12.

There are also additional knives that may be obtained; for example, a compass stencil knife to cut circles or a bi-cutter stencil knife to cut two lines at the same time for broad letters, etc. However, these additional knives are not absolutely necessary.

The above described film is known as "Nu-film", and the

"Blu-film" stencil is very similar in working method to the "Nu-film" except that it is easier to work with and less tiring on the eyes. See shop hint No. 12 on page 30.

B. The shellac-paper method.

This method is very economical when a large, simple, lettered poster or banner is to be reproduced. The stencil is cut from any ordinary paper coated on one side with shellac; then the paper stencil is placed under the silk and ironed with a hot iron which melts the shellac and adheres the paper to the silk. After printing, the stencil may be removed with alcohol or any other solvent. This method is not highly recommended for all uses.

C. The "Tusche" method.

By using this method it is possible to obtain the rough texture of a crayon stroke, a block-print effect, "ben-day", and numerous other effects giving variations in texture. It is best to use a fine mesh silk so that there will not be so much danger of "zig-zag" lines as with a coarser mesh silk. In this method the silk frame is placed directly over the drawing to be reproduced, and the drawing may then be drawn on the silk in pencil or ink. Then a liquid known as "tusche" is used and brushed on all the areas of the silk that are to be printed. This "tusche" is a black liquid consisting of very small particles of wax suspended in water and is prepared for the use of the lithographers. The dry "tusche" being wax alone will naturally resist water, which is the basic principle of this method. After the "tusche" is dry, a glue mixture is scraped over the entire silk with the aid of a piece of cardboard or other material. This glue mixture is simply a mixture of 50% glue and 50% water. One must be sure that the glue mixture covers the silk thoroughly and does not leave any pin holes where the paint might pass through. After the glue has dried, the screen must be checked against a light for pin-holes. If any appear, the glue process must be repeated. After this is dry, the screen can be turned upside down and the "tusche" areas soaked with either kerosene or turpentine; then the screen can be placed right side up on some newspapers and more kerosene or turpentine applied. The glue will scale off the "tusche" and this "tusche" will be dissolved. The "tusche" areas will then be open ready for processing. Use a paint the same as for the film or any other method.

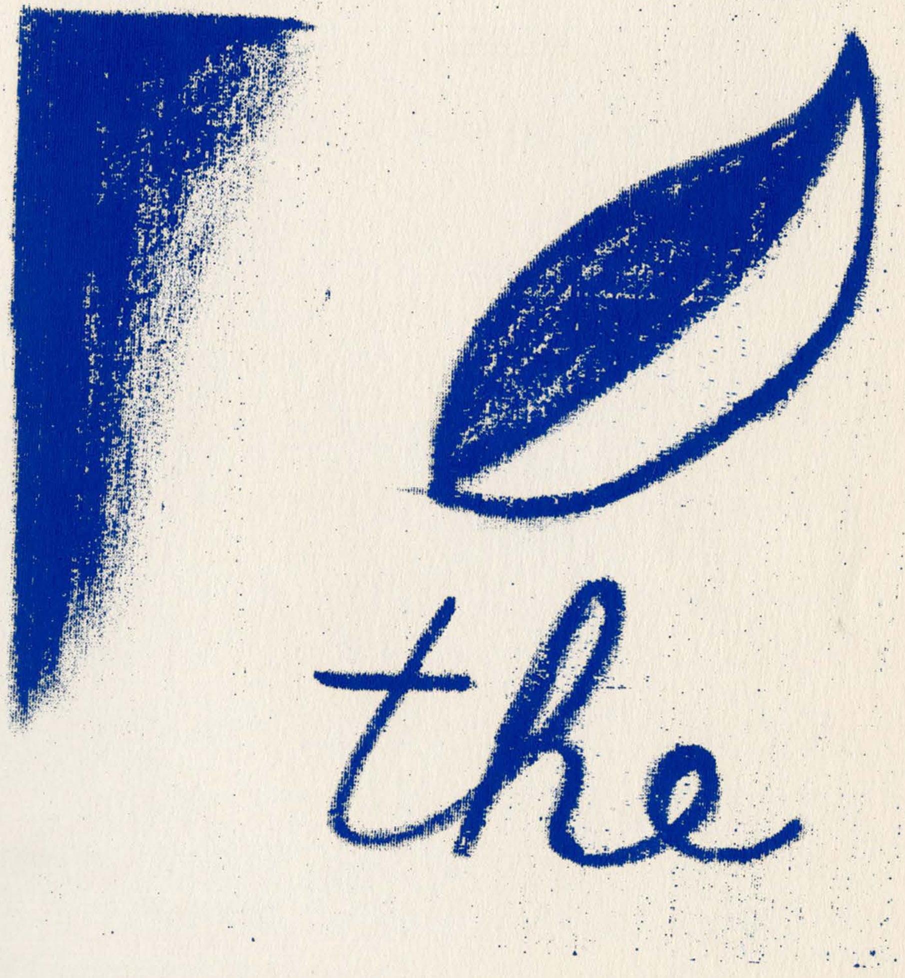
A lithographic crayon may be used directly on the silk to make a rough line. Or a "ben-day" plate, some sandpaper, or any other textured material placed underneath would give the desired effect necessary for the design. The silk is then finished ready for printing the same as above. The screen may be cleaned of the paint by using any lacquer thinner and the glue dissolved with water. This process is not too exact for multi-color work due to the possible shrinking and expanding of the silk.

D. Photographic stencils.

This method will not be described here as it entails a lot of preparation and requires special materials. However, it is worthwhile for certain effects since any pen and ink drawing, as well as photographs, may be reproduced.

Some very fine work may be done by the photographic method, but I have not seen any silk-screened photo that can take the place of a half-tone. Any silk-screen supply store can give you information on how to make a photographic stencil. Some artists have reproduced some very fine designs for handkerchiefs, scarfs, etc, by this method. There is still much experimentation going on with this type of a stencil.

Below is an example of the "Tusche" method using a lithographic crayon directly on the silk. The cover of this book and the illustrations on pages 26 and 27 were done using the "Film" method. The "Film" method gives a complete flat covering of paint while the "Tusche" method gives the rough texture of a crayon stroke.



CHAPTER V

TYPES OF MATERIAL FOR PRINTING

Chapter V

Types of Material for Printing

The silk-screen process has a distinct advantage over the printing press since it will print on almost any type or kind of material and surface. Most common show-card board comes in the following sizes, 22" x 28" and 28" x 44". The large screen as described in Chapter II will take the 22" x 28" size, and the small screen will take just half that size or 11" x 14". All types of papers, boards, etc., may be used for printing.

Practically all materials fall into one of the two classifications listed below.

1. Nonporous and nonabsorbent.
2. Porous and absorbent.

The first class usually requires a heavier and thicker bodied paint, while the latter classification demands a lighter and thinner bodied medium.

Such materials as glass, cellophane, celluloid, wood metal, cloth, leather, felt, cork, oilcloth, etc., may be screened successfully.

Many colored designs found on drinking glasses in the 5 and 10 cent stores have been silk-screened and then baked on. Thousands of commercial signs, posters, display pieces, etc., are processed with the silk-screen. To the beginner, the possibilities the process affords and the hundreds of uses it may be put to is really surprising and amazing.

After studying the various materials that may be processed, the beginner may readily see where he can use the process in various ways in the high school and college. The silk-screen should prove very helpful in a number of different ways. Certain objects require specially shaped screens to fit the shape of the article to be printed. However, on most round objects, such as bottles, glasses, etc., the screen is flat, and the object to be printed is rotated under the screen and squeegee.

When thick materials such as wood, leather, cork, etc., are processed, the screen must be raised from the printing base the thickness of the material. At times the screen is loose and can be carried from one object to another and put in the desired spot for printing. When thick materials are used, the spaces around the article printed must be built up to the same thickness as the article itself so as to help protect the silk and squeegee, and assure a better contact print. See illustration below.

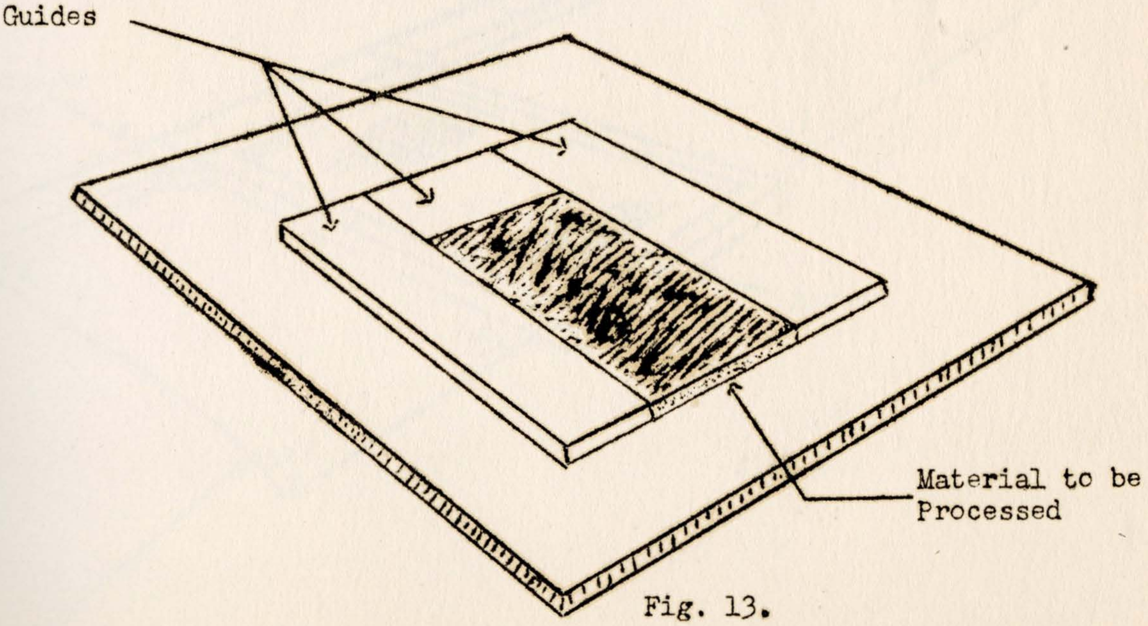


Fig. 13.

When a textile is printed, the cloth should be laid out flat on a long table or bench and tacked in place. Then with a long strip of wood along one side, which has stops or guides set the width of the screen, the frame is placed on the table and printed, then placed in the next position being guided by the guides or stops. Any simple set-up for the stops or guides may be arranged in order to guide the frame each time for perfect matching. The frame is separate from the base for this operation. See diagram below.

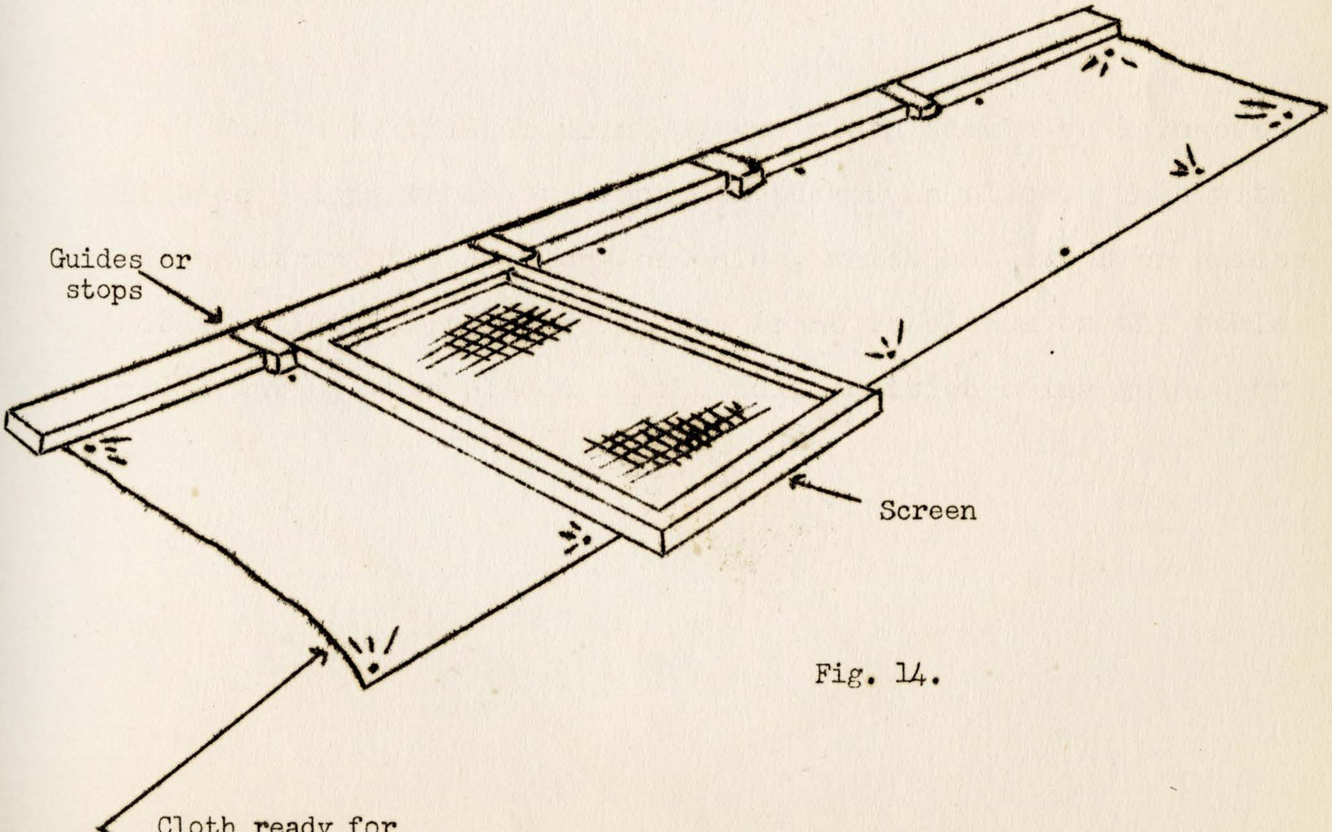


Fig. 14.

CHAPTER VI

EXTRA AIDS FOR EFFICIENT WORK

Chapter VI

Extra Aids for Efficient Work

There are a number of extra aids or accessories that will assist the printer to obtain better and more efficient processing.

To insure perfect register for each print, it is necessary to have registering guides placed on the printing base the same as a printer would have on his press, one on each of two sides of the material to be processed. However, these guides may be made in a number of different ways.

The author usually uses two pieces of the material that is to be processed, and fastens these in the proper place on the printing base with scotch tape.

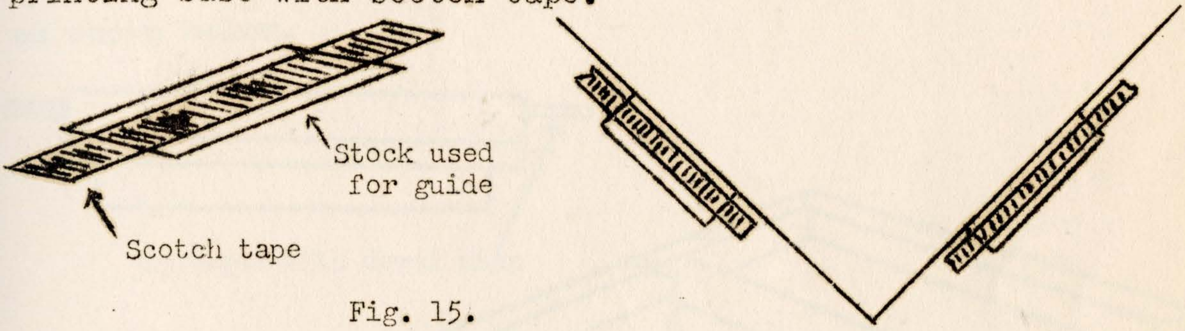


Fig. 15.

When paper or any other thin material is to be printed, the material may stick to the silk because of the paint. If this is the case, guides like those shown below may be used.

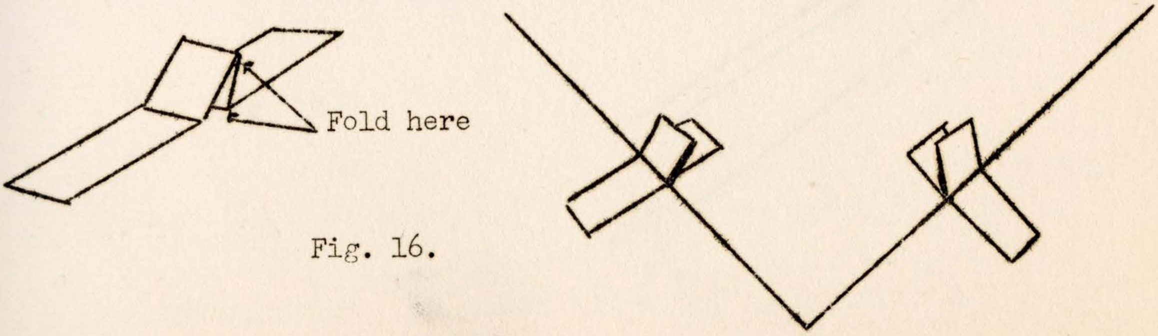


Fig. 16.

At times when a large number of pieces are to be processed, it is advisable to have the guides more permanent. They may be made of thin brass and then screwed onto the base in the proper positions and the screws countersunk as shown below.

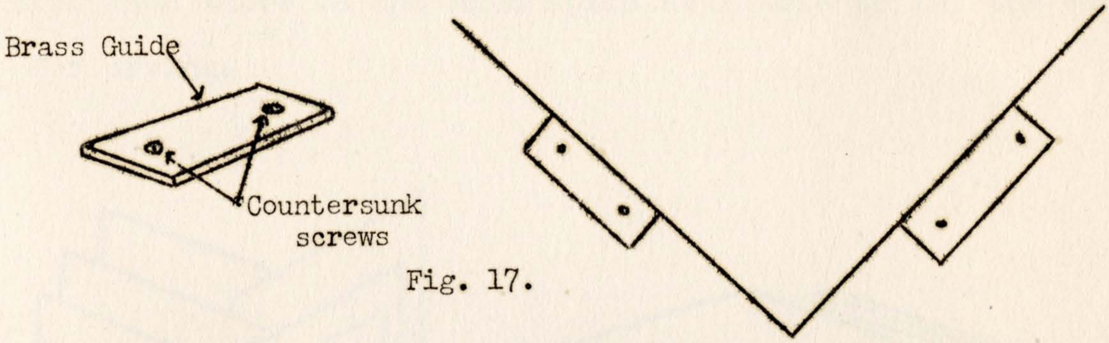


Fig. 17.

To keep the squeegee from falling into the paint while not in immediate use, dowell pins or nails may be inserted in the ends and, therefore, allow the squeegee to rest on the printing frame as shown below.

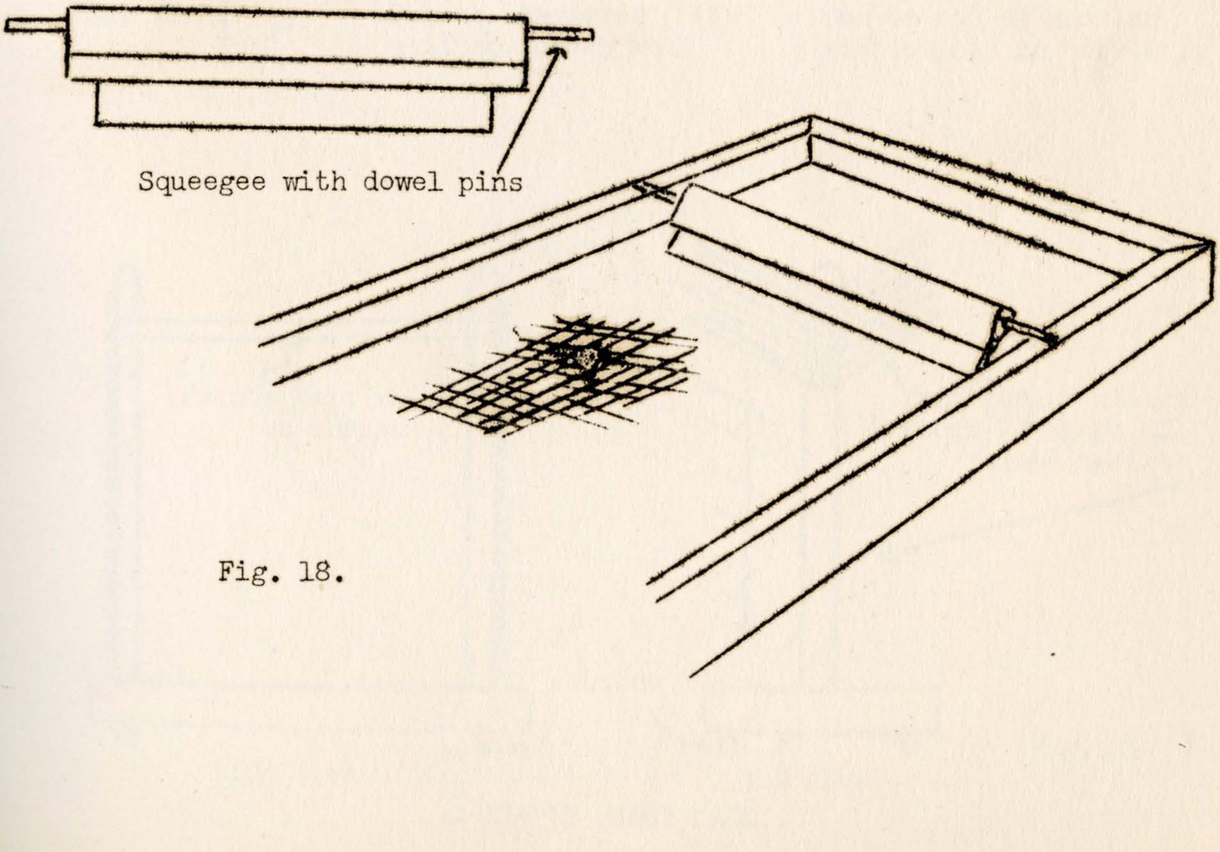


Fig. 18.

Drying racks may be used when a large number of prints are desired. These may vary in size and construction. A few of these are illustrated below and no description is given, as it is believed that the diagrams will explain themselves. These are very helpful when there is not much space available to lay the prints out for drying.

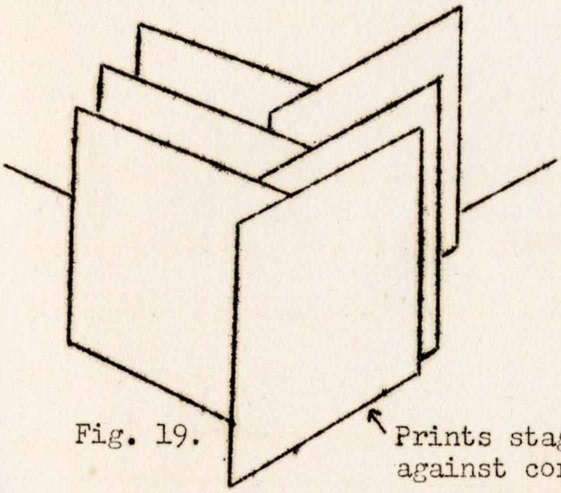


Fig. 19.

Prints staggered against corner wall

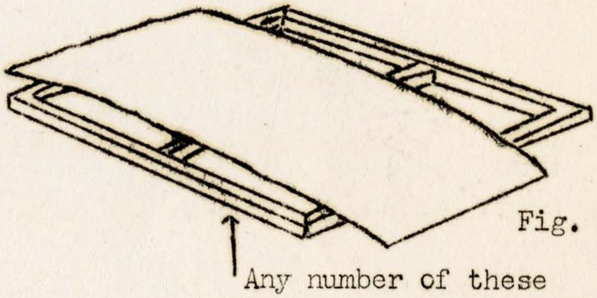
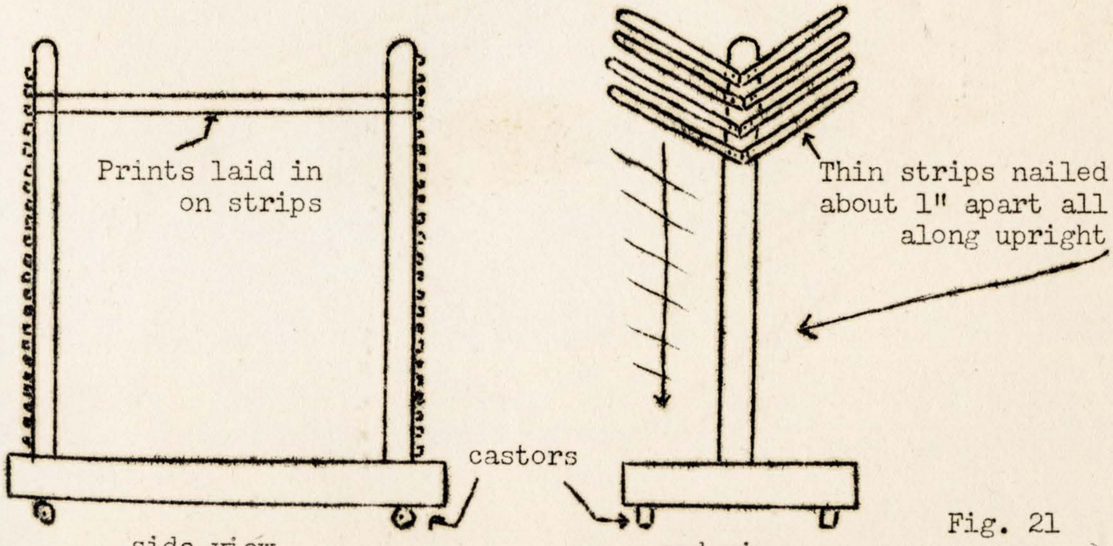


Fig. 20.

Any number of these frames may be stacked one on top of another with prints in between.



Prints laid in on strips

Thin strips nailed about 1" apart all along upright

castors

side view

end view

Fig. 21

A SIMPLE HANDY RACK

CHAPTER VII

PROCEEDURE FOR PRINTING

Chapter VII

Proceedure for Printing

After the stencil is affixed to the screen using any one of the methods described in Chapter IV, the screen is set into the hinge sections on the printing base and the springs fastened ready for processing.

Whatever stock is to be printed is then cut to the proper size. The paint is mixed smooth in a clean container ready for printing. For efficient, quick work, three people are required although the precessing can be done with only two people. Using three persons, the job is carried out as outlined below.

1. The "set-in" man. He stands to the left of the screen with stock piled up near him and sets in one piece at a time and registers it by use of the guides for proper printing.
2. The "processing" man. After the material is placed in the proper position by the "set-in" man, the "processing" man, who stands in the front of the screen, holds the screen down tight to the base and pulls the squeegee across the screen with a firm even stroke. After making the impression with one stroke, he releases the frame for the next print.
3. The "take-off" man. It is the "take-off" man's job to pick up the print and rack it. The "take-off"man stands to the right of the screen.

After a little practice by each person involved, the processing goes quite rapidly, and it will be found that for an average job, it will be possible to run off many more than one hundred prints in one hours time. The speed depends, naturally, on the type and size of the job to be processed.

After all the stock has been printed, it will be necessary to clean the screen thoroughly. For the "Nu-film" method, there is a thinner that can be used, and instructions may be gotten with the purchase of the film.

The diagram below shows the position of each man involved, and also the screen down on the base ready for printing.

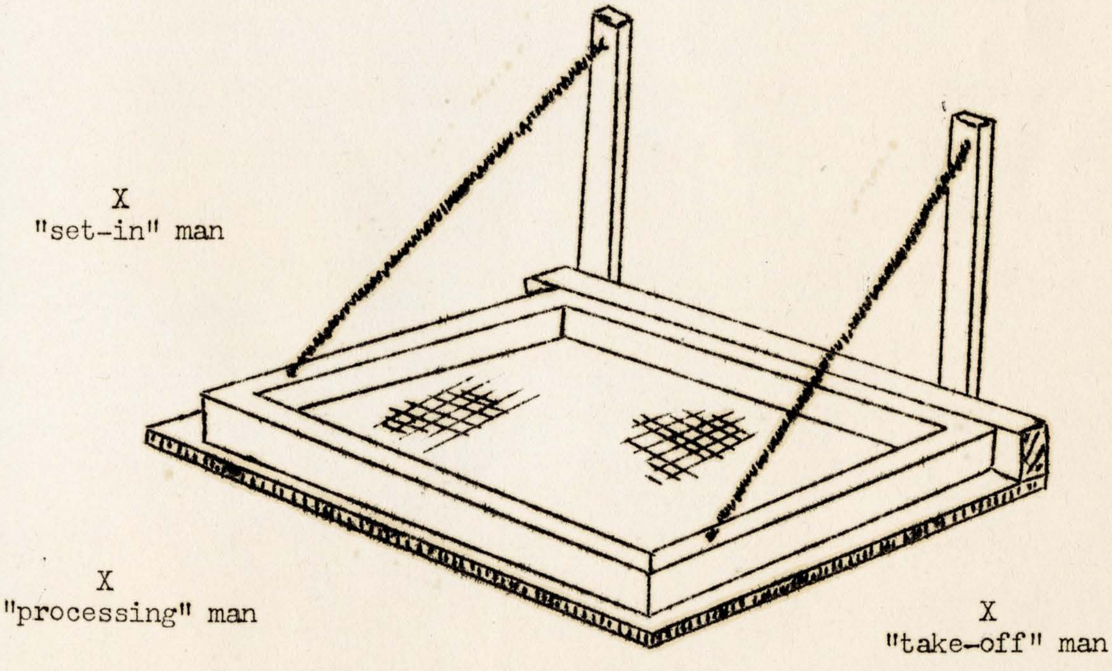


Fig. 22.

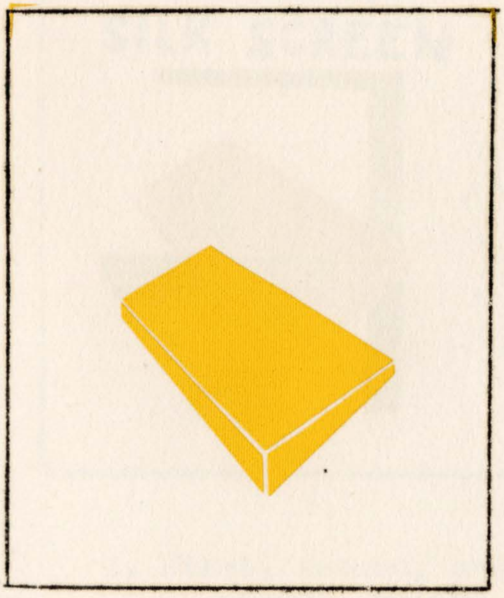
CHAPTER VIII

MULTI-COLOR WORK

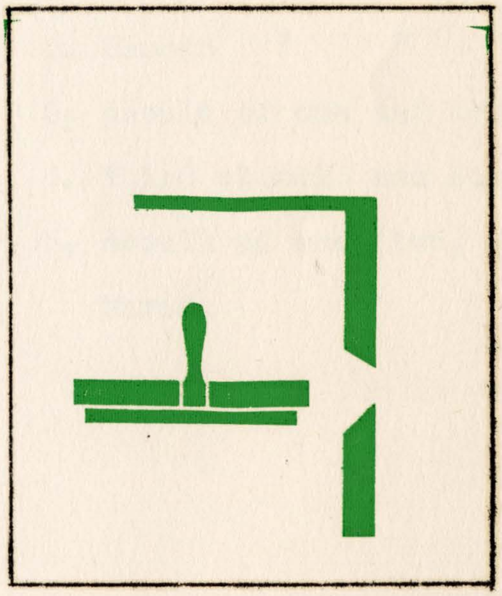
Chapter VIII

Multi-Color Work

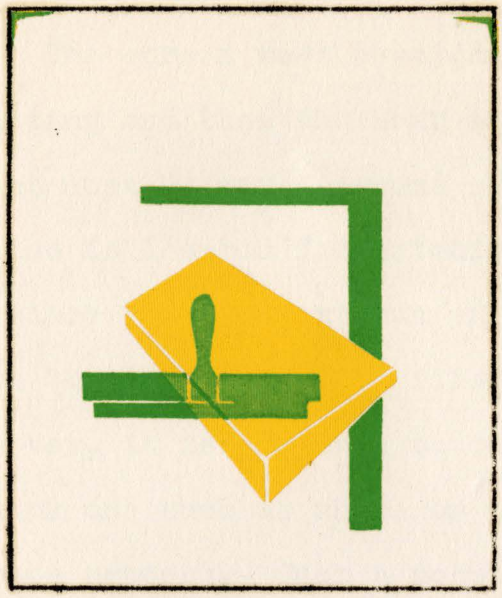
In doing a job with more than one color, a separate stencil is necessary for each and every color to be processed. It is best to allow for a little overlap of colors so as to insure perfect matching of colors and eliminate any hair line from showing between colors. To help make multi-color printing clearer, the various steps taken to produce the design found on the following page are shown below.



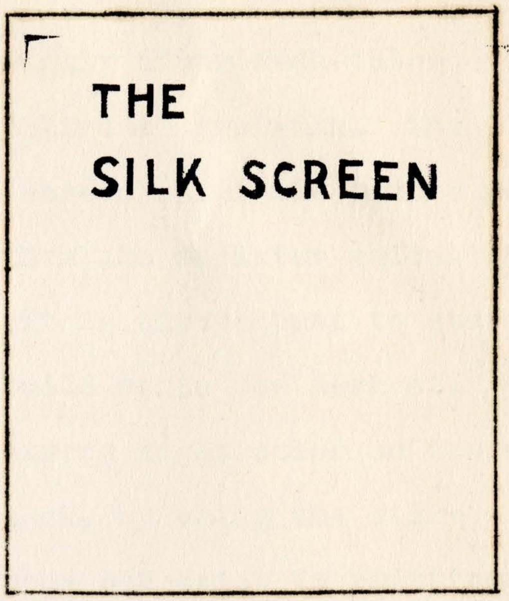
1. First stencil color.



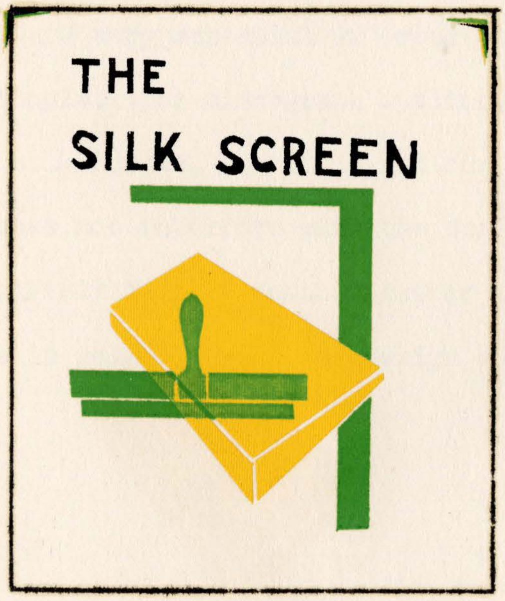
2. Second stencil color.



3. First and second stencils.



4. Third stencil color.



5. First, second, and third stencil colors.

Explanation.

1. First stencil and color
2. Second " " "
3. Result of one and two.
4. Third stencil and color.
5. Result of one, two, and three.

The screen must be cleaned thoroughly after each color printing and then the next stencil applied to the silk. The print must be moved around under the screen until the proper position is located for matching, and then the register guides set in place for the next run of color. It is always best to start with the lightest color first, then build up to the darkest. However, it is possible to obtain a strong light color on top of a dark one such as white on top of black, by using the silk-screen process. Such a possibility does not exist in printing.

The small angular marks in the top two corners of the color prints on pages 26 and 27 help somewhat in registering the print at the beginning. They are very essential in order to register the first color properly in the rectangle. The mimeograph outline, however, does not register perfectly with the silk-screen, but it is not our purpose to combine the two processes. If it does not interfere with the design it is possible to allow one color to completely overlap another rather than merely touching the edge. This was done in some parts of the design on page 27.

CHAPTER IX

EXPERIENCED SHOP HINTS

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EXPERIENCED SHOP HINTS

Chapter IX

Experienced Shop Hints

1. If "Nu-film" or "Blu-film" is used for making the stencil, be careful and not have too much adhering liquid in any one spot or the stencil will dissolve. With one cloth saturated with the adhering liquid and another dry, clean cloth handy, rub one spot then dry it immediately, working rapidly as you cover the screen.

2. Sometimes there may be some lumps or bits of scum in the paint. If this is the case, the paint should be strained first. Some paint stores will furnish funnel-shaped, paint strainers upon request. If these are not obtainable, use screen wire or a loose mesh cloth.

3. When it is found that the paint is too thick or is not working properly, remove the paint from the screen to thin; do not try to thin it in the screen.

4. If the screen ever clogs when "Nu-film" or "Blu-film" is used for the stencil, use turpentine to clean it.

5. The paint must not be too thin, or it will be difficult to control, and will not produce clear, sharp prints.

6. The rubber blade on the squeegee may be straightened on a piece of garnet cloth or paper by rubbing it back and forth on the garnet material.

7. When the paint is kept in cans, it is a good policy to pour some linseed oil on top of the paint before the lid is put on the can so that a scum will not form on top of the paint.

This oil can easily be poured off again when the paint is to be used for another job.

8. It is not necessary to have the "Nu-film" or the "Blu-film" fill the entire screen for a small job. The writer usually masks the remainder of the screen with ordinary "oak-tag" and scotch tape as used for masking by automobile painters.

9. If the silk is not stretched tight enough on the frame, there may be a certain amount of "give" in the silk that will not permit perfect registering. Be sure the silk is stretched tight on the frame before any stencil is applied.

10. Every now and then it may be necessary to wipe the under side of the silk with a clean, dry cloth to pick up any surplus paint that may accumulate.

11. If it is necessary to stop processing for a few hours or longer, it will be necessary to clean the screen, and then it may be used again without having to destroy the stencil. For most stencils, use turpentine, and not thinner, for cleaning as the thinner will dissolve "Nu-film" or "Blu-film".

12. In cutting the "Nu-film" or "Blu-film", one should cut through the film only and not cut into the wax backing sheet.

CHAPTER X

SUGGESTIONS FOR USE

Chapter X

Suggestion for Use of the Silk-Screen

When one has become accustomed to the silk-screen, many ideas for its use will come to mind since it is a very versatile process. Hundreds of articles may be processed satisfactorily, A number of possible uses are listed below.

1. Banners
2. Signs
3. Posters
4. Place-cards
5. Lamp-shades
6. Felt pennants
7. Felt armbands
8. Felt souvenirs
9. Christmas cards
10. Personalized stationary
11. Athletic Jerseys
12. Metal signs (rest-rooms)
13. Glass exit signs
14. Name cards
15. Advertising blotters
16. Athletic schedules
17. Stickers and labels

It must be kept in mind that this process should be used only when a large number of copies of the same design are desired. If the design is small, lots of 25 or more are satisfactory. In case of large designs, perhaps 50 copies or more are worth while. In the commercial field thousands of copies are processed from the one original design.

The silk-screen process may be used for stencilling designs on handkerchiefs, scarfs, napkins, card-table sets, etc. Commercially, it is used for some dress materials and drapery goods, lamp-shades, glasses, decorative boxes, as well as, signs, posters, display pieces, etc. Silk-screening can be detected by its raised surface or upon close inspection the mesh of the silk can sometimes be seen.

CHAPTER XI

A BRIEF EXPLANATION OF "FLOCKING"

Chapter XI

A Brief Explanation of "Flocking"

"Flocking" is a term applied to the application of "flock" to any type of material. "Flock" itself is simply small fibers of either cotton, wool, or rayon which are applied to an adhesive base by either sifting or blowing. It gives a very novel, unusual, and desirable effect for some purposes. In industry it is much used. The interiors of some cameras are "flocked", and on some automobiles the glove compartments are "flocked" on the interior. For applying the "flock", it is necessary to apply first a special adhesive which should be about the same color as the "flock" that is to be applied. The adhesive may be brushed, sprayed, or silk-screened. For unusual effects on place-cards, and posters, etc., the adhesive may be silk-screened. Then the "flock" should be applied to the adhesive while it is still wet. This can be done successfully by using an ordinary kitchen sieve about 5" in diameter and sifting the "flock" through it onto the wet adhesive. In commercial shops and industry, the "flock" is used in a special air gun made for the purpose and blown on. The adhesive is allowed to dry well, then the surplus "flock" can be shaken off. "Agitating" is also helpful. After "flock" has been sifted on some parts of the poster, the poster is held horizontally, and by tapping the bottom, the "flock" settles better into the adhesive. Thus "flock" can be used for applying names to athletic jerseys which can be dry cleaned since the "flock" is real cotton, wool, or rayon as the case may be. Some rather unusual effects can be obtained by using an adhesive of a different color than the "flock" that is to be applied. However, for practically all jobs it is better to have the adhesive and "flock" match or nearly match in color.

At present, "flock" is not much used by many high schools and colleges, and it is believed that after the method is understood, more ideas for its use will come to mind. The writer used a royal blue rayon "flock" for decorating some music stands for a swing band since the rayon gave a rich appearance and cut the glare of lights considerably.

The illustration below shows how the kitchen sieve is used for sifting the "flock", and on the next page are actual samples of this material called "flock".

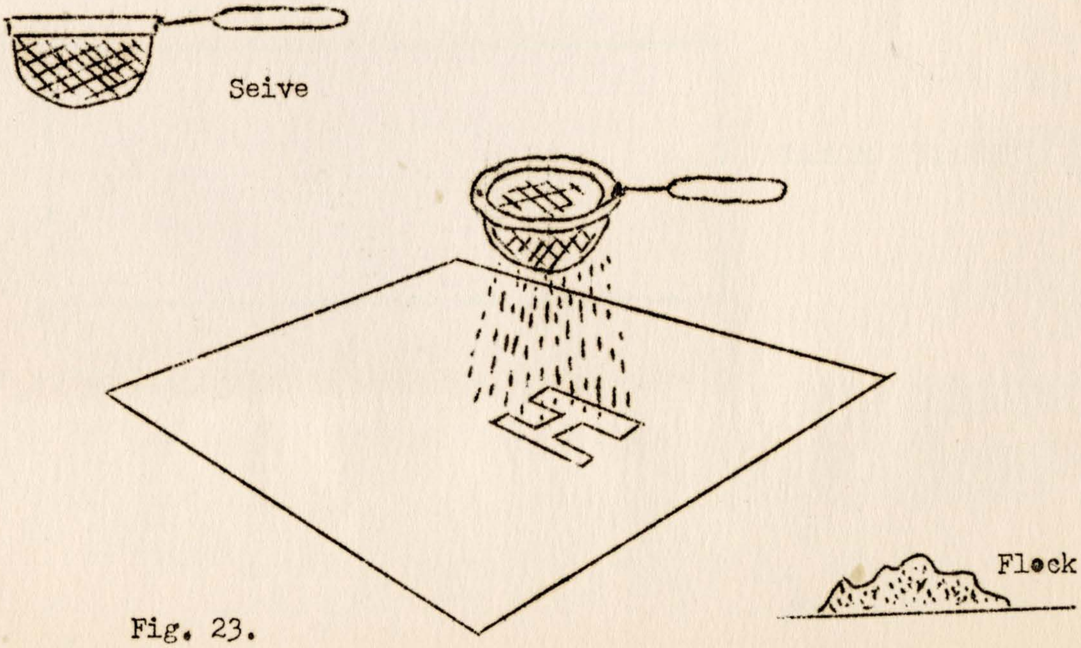
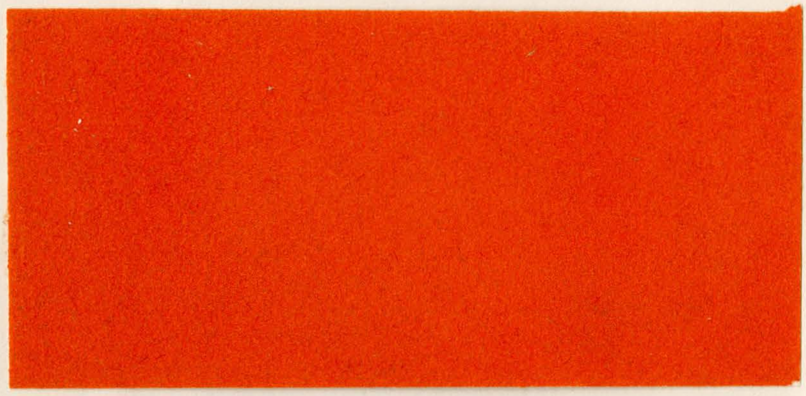
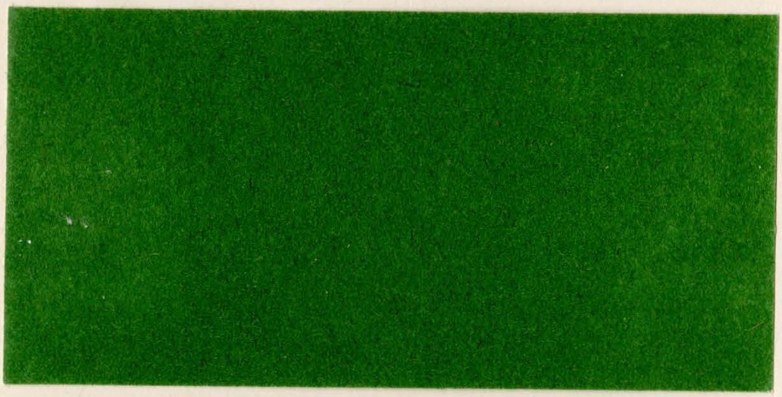


Fig. 23.

Shown below are actual samples of cotton, wool, and rayon "flock" applied to paper. These are shown here through the courtesy of the Claremont Waste Manufacturing Company, Claremont, New Hampshire, makers of "flock".



COTTON "FLOCK"



WOOL "FLOCK"

RAYON "FLOCK"